FIREARM BORE CLEANER

Cross-Reference to Related Application(s)

This application claims the benefit under 35 U.S.C. §119(e) of U.S. Provisional Application Serial Number 60/412,828 filed September 23, 2002, the specification of which is hereby incorporated by reference.

Field of the Invention

This invention relates to the field of firearms, and more specifically to a method and apparatus for bore cleaning a firearm.

Background

Firearms are used for target practice, hunting, law enforcement, and so on. After each shot, residue is left within the barrel from both the bullet as it leaves the gun and from the gases produced by combustion. It is important for reasons of accuracy and safety that the bore of the gun be cleaned periodically.

Typically, a gun is cleaned by attaching a brush or swab to a rod which is then pushed into the muzzle of the gun and moved up and down along the bore. One problem with this method is that the residue within the bore can be pushed up the barrel but not removed from the barrel. Moreover, it is a time-consuming process which can be unsatisfactory if a user wants to quickly clean a gun while in the field, for example.

Brief Description of the Drawings

FIG. 1 shows a bore cleaner assembly according to one embodiment of the present invention.

FIG. 2 shows the bore cleaner assembly of FIG. 1 without the bronze wool member.

Detailed Description

In the following detailed description, reference is made to the accompanying drawings which form a part hereof, and in which is shown by way of illustration specific embodiments in which the invention may be practiced. These embodiments are described in sufficient detail to enable those skilled in the art to practice the invention, and it is to be understood that other embodiments may be utilized and that structural changes may be made without departing from the scope of the present invention. Therefore, the following detailed description is not to be taken in a limiting sense.

FIG. 1 shows a bore cleaner assembly 100 according to one embodiment. Bore cleaner assembly 100 includes a weighted member 102, a flexible cord 104, a second, thicker flexible cord 106, and a scrubbing member such as a bronze wool member 108. Weighted member 102 is attached to one end of flexible cord 104. The second end of flexible cord 104 is attached to a first end of cord 106. Bronze wool member 108 is removably mounted to the main body of cord 106.

Weighted member 102 provides weight for pulling cleaner assembly 100 through the bore of a gun. For instance, when cleaner assembly 100 is put into the breech of a gun, weight member 102 falls through to the muzzle of the gun pulling the rest of assembly 100 behind it. A user then pulls the cord through the rest of the bore.

In one embodiment, weight 102 is a cylindrical brass member with a diameter of approximately 5 mm. In this example, weight 106 is crimped to cord 104. Glue, epoxy, or other equivalents could alternatively attach the weight to the end of the flexible cord. Other materials for weight member 102 include copper or other metal, or a non-metal such as a ceramic.

Flexible cord 104 is an elongated, flexible cord or rope member. Cord 104 can include woven material, a nylon cord, plastics, polymers, polyester, or other flexible or ductile material. In one embodiment, cord 104 has a diameter of

approximately 4 mm and an overall length of approximately 1500 mm (59"). Other dimensions are within the scope of the invention.

Thick flexible cord 106 includes an elongated main body which can include an absorbent, woven fabric material such as nylon. In one embodiment, the cord can include a filling material such as foam mounted within the body. Other embodiments can include a polyester material for the main body. Cord 106 is dimensioned to fit compressively within the barrel of the gun to clean or wipe off the inner surface of the gun when the main body is pulled through the gun barrel. Different sizes of flexible thick cords 106 can be used for different size guns. For instance, for a .22 caliber gun, cord 106 can be approximately 13 mm thick and have a length of approximately 790 mm. For a 12 gauge gun, cord 106 can be approximately 34 mm thick and have a length of approximately 620 mm. For a .30 caliber gun, cord 106 can be approximately 17 mm thick and have a length of approximately 790 mm. Other sizes for different guns will be apparent to those skilled in the art.

Scrubbing member 108 includes a plurality of elongated, woven bronze strands formed into an elongated structure. In one example, member 108 is fed or threaded through holes in the body of cord 106 and twisted around the cord to removably mount it to the cord. However, member 108 can be mounted to cord 106 in various manners. The example of FIG. 1 is but one example. In one embodiment, the ends of member 108 are located within cord 106.

Figure 2 shows assembly 100 with member 108 removed. This example includes four holes 202 running along the length of cord 106 and extending through the body. Various embodiments include other numbers of holes.

The easy removability of the elongated bronze wool member allows for a user to use the assembly with or without the scrubbing member. Moreover, it allows for easy replacement when the scrubbing member wears out or is damaged.

In one example use of the present system, a user can add some solvent, gun oil, or cleaning solution to one or more portions of assembly 100. Weight member

102 is dropped into the breech of the gun, and the weight drops through the barrel and out through the muzzle pulling the thin cord 104 with it. The user then pulls the rest of the assembly through the barrel. As thick cord 106 and scrubber 108 run along the inner surface of the barrel they remove or loosen dirt and other built-up material located within the barrel. If a solvent is added to the cord, that further helps loosen and remove any foreign substance. After the scrubbing member 108 has passed, thick cord 106 further moves along the barrel to wipe the barrel clean. Again, solvent or gun oil may also be used on cord 106 to help clean and lubricate the gun. Thus, a user can clean and lubricate the gun in one quick step. Moreover, since the assembly can be put into the breech and pulled toward the barrel it does not leave any residue in the bore as would happen if a brush was pushed into the muzzle of the gun and then pulled out.

It is understood that the above description is intended to be illustrative, and not restrictive. Many other embodiments will be apparent to those of skill in the art upon reviewing the above description. The scope of the invention should, therefore, be determined with reference to the appended claims, along with the full scope of equivalents to which such claims are entitled.